

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/055155 A3

(51) International Patent Classification⁷:

G07D 7/12

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(21) International Application Number:

PCT/IL2004/001099

(22) International Filing Date: 1 December 2004 (01.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/525,886 1 December 2003 (01.12.2003) US

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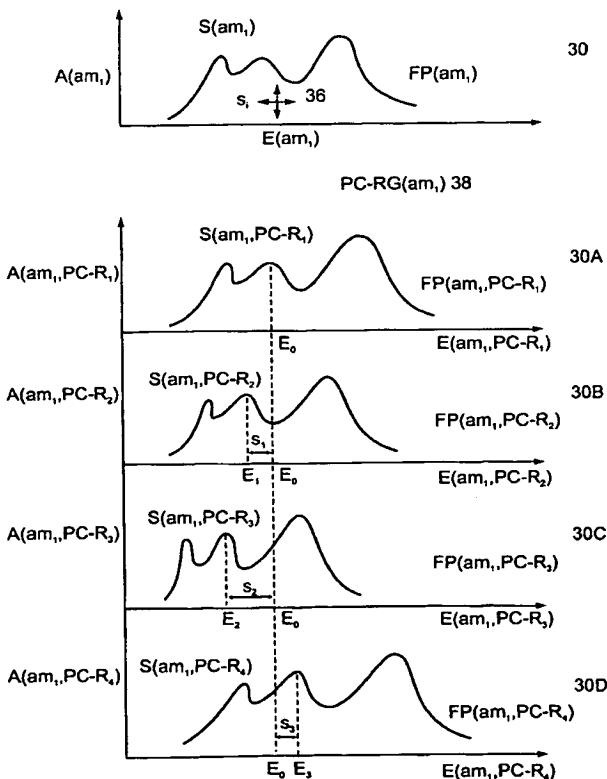
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,

[Continued on next page]

(54) Title: AUTHENTICATING AN AUTHENTIC ARTICLE USING SPECTRAL IMAGING AND ANALYSIS



(57) Abstract: Authenticating an authentic article having an authentication mark. Acquiring a set of spectral images of the authentication mark, for forming a set of single-authentication mark spectral fingerprint data (FIG. 1). Identifying at least one spectral shift in the set of single-authentication mark spectral fingerprint data, for forming an intra-authentication mark physicochemical region group including sub-sets of intra-authentication mark spectral fingerprint pattern data, such that data elements in each sub-set are shifted relative to corresponding data elements in remaining sub-sets in the same intra-authentication mark physicochemical region group (FIG. 2). Forming a set of intra-authentication mark physicochemical properties and characteristics data relating to the imaged authentication mark, by performing pattern recognition and classification analysis on the intra-authentication mark physicochemical region group (FIG. 3). Comparing and matching elements in the set of intra-authentication mark physicochemical properties and characteristics data to corresponding reference elements in reference set of data, thereby authenticating the authentic article.

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SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:

7 July 2005